

Title (en)  
HIGH-RESISTIVE SILICON SUBSTRATE WITH A REDUCED RADIO FREQUENCY LOSS FOR A RADIO-FREQUENCY INTEGRATED PASSIVE DEVICE

Title (de)  
HOCHFESTES SILICIUMSUBSTRAT MIT REDUZIERTEM FUNKFREQUENZVERLUST FÜR EINE FUNKFREQUENZINTEGRIERTE PASSIVE VORRICHTUNG

Title (fr)  
SUBSTRAT EN SILICIUM À HAUTE RÉSISTIVITÉ PRÉSENTANT DES PERTES RADIOFRÉQUENCE RÉDUITES POUR DISPOSITIF PASSIF INTÉGRÉ RADIOFRÉQUENCE

Publication  
**EP 3075007 A4 20170607 (EN)**

Application  
**EP 14866142 A 20141126**

Priority  
• FI 20136180 A 20131126  
• FI 2014050910 W 20141126

Abstract (en)  
[origin: US2015145105A1] The application relates to a high-resistivity silicon substrate (100) with a reduced radio frequency loss for a radio frequency integrated passive device. The substrate comprising a bulk zone (110) comprising high-resistivity bulk silicon and a preserved sub-surface lattice damage zone (120b) comprising fractured silicon above the bulk zone. The lattice damage zone is processed into the substrate and the preserved lattice damage zone is configured to achieve the RF loss reduction of the substrate by suppressing a parasitic surface conduction.

IPC 8 full level  
**H01L 23/552** (2006.01); **G06K 19/077** (2006.01); **H01L 21/02** (2006.01); **H01Q 1/22** (2006.01)

CPC (source: EP FI KR US)  
**G06K 19/07771** (2013.01 - FI); **H01L 21/02002** (2013.01 - EP FI KR US); **H01L 21/02008** (2013.01 - EP KR US); **H01L 21/02013** (2013.01 - KR US); **H01L 21/02024** (2013.01 - EP FI US); **H01L 21/304** (2013.01 - KR US); **H01L 21/76256** (2013.01 - EP US); **H01L 23/552** (2013.01 - FI); **H01L 23/66** (2013.01 - EP KR US); **H01L 29/04** (2013.01 - KR US); **H01L 29/16** (2013.01 - KR US); **H01L 29/32** (2013.01 - EP FI KR US); **H01Q 1/2283** (2013.01 - FI); **H01L 2924/0002** (2013.01 - EP US)

C-Set (source: EP US)  
**H01L 2924/0002 + H01L 2924/00**

Citation (search report)  
No further relevant documents disclosed

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**US 2015145105 A1 20150528; US 9312345 B2 20160412**; CN 105993072 A 20161005; CN 105993072 B 20190301; EP 3075007 A1 20161005; EP 3075007 A4 20170607; EP 3872856 A1 20210901; EP 3872856 B1 20240710; FI 130149 B 20230315; FI 20136180 L 20150527; JP 2016541118 A 20161228; JP 6438024 B2 20181219; KR 102284688 B1 20210802; KR 20160089448 A 20160727; SG 11201604259P A 20160728; TW 201535716 A 20150916; TW I638454 B 20181011; WO 2015079111 A1 20150604

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